UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/724,585	11/29/2003	Isidore Rigoutsos	YOR920030620US1	9905

7590 10/06/2006

Gail H. Zarick
IBM Corporation
Intellectual Property Law Dept.
P.O. Box 218
Yorktown Heights, NY 10598

EXAMINER	
DANG, THANH HA T	

ART UNIT	PAPER NUMBER
2163	

DATE MAILED: 10/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/724,585	RIGOUTSOS ET AL.	
	Examiner	Art Unit	
	Thanh-Ha Dang	2163	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-64* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-64* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 November 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *09/03/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Claims 1-64 are rejected in this Office Action.

Specification

2. The disclosure is objected to because of the following informalities: Page 3, 2nd Paragraph of the Specification recites "... query email message email message ..." : error. Appropriate correction is required.

Claim Objections

3. Claims 6 and 30 are objected to because of the following informalities:

- Claim 6 recites "... with with assigned ...": error.
- Claim 30 is incomplete due to no ending punctuation.

Appropriate correction is required.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1, 31 and 48 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim 1 recites a method for annotating a query email message comprising the steps of "accessing patterns ... messages; assigning attributes ...

and using the patterns ... message" that merely describes a number of computing steps. The cited steps conclude with "using the patterns with assigned attributes to analyze the query email message" that provides no useful, concrete, and tangible result. Therefore, the claim is directed to non-statutory subject matter under 35 USC101.

Claim 31 recites an apparatus comprising "a memory; and at least one processor operative to access patterns ... assign attribute ... use the patterns ... message" that does not provide any useful, concrete, and tangible result. Therefore, the claim is directed to non-statutory subject matter under 35 USC101.

Claim 48 recites an article of manufacture comprising a machine readable medium containing one or more programs which when executed implement the steps of "accessing patterns ... assign attribute ... use the patterns ... message" that does not provide any useful, concrete, and tangible result. Further, the machine-readable medium is not limited to tangible embodiments. In view of Applicant's disclosure, Specification page 11--4th paragraph ("... The machine readable medium may be a recordable medium **or** may be a transmission medium ..."), the medium is not limited to tangible embodiments, instead being defined as including both tangible embodiments (e.g., floppy disks, memory cards, etc.) and intangible embodiments (e.g., radio-frequency channel). As such, the claim is not limited to statutory subject matter. Therefore, the claim is directed to non-statutory subject matter under 35 USC101.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1, 4-21, 27-42, 47-59 and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,769,016 issued to Rothwell et al. ("Rothwell") and further in view of Pub. No. US2003/0195937 issued to Robert C. Kircher, Jr. ("Kircher").

As to **Claims 1, 31 and 48**, *Rothwell teaches* a method for annotating a query email message, the method comprising the steps of:

- accessing patterns associated with a database *(Figure 4, block412)* comprising annotated email messages *(column 4, lines 55-56)*;
- *Rothwell does not explicitly teach* assigning attributes to the patterns based on the annotated email messages; and using the patterns with assigned attributes to analyze the query email message. However,

  Kircher teaches assigning attributes to the patterns based on the annotated email messages *(Figure 8 wherein block88c,e,g,h,j,l assign attributes and block88b,d,f,i,k teach pattern based on the annotated email messages)*; and using the patterns with assigned attributes to analyze the query email message *(Figure 6, page 7 [0064] wherein block84/84c uses attributes to analyze messages)*.

It would have been obvious to one of the ordinary skill in the art during the time the invention was made to combine intelligent message screening teaching of Kircher with intelligent spam detection system using an updateable neural analysis engine teaching of Rothwell in order to provide method and system which use spam and non-spam electronic mail patterns to classify and to validate electronic mail and messages.

As to **Claim 4**, *Rothwell in combination with Kircher teaches* wherein the steps of accessing patterns and assigning attributes are carried out independently of and prior to the step of using the patterns with assigned attributes to analyze the query email message *(Kircher, page 2 [0012] wherein*

each message assigned to one of a plurality of different categories that is equivalent to pattern with assigned attribute).

As to **Claims 5, 32, and 49**, *Rothwell in combination with Kircher teaches* further comprising the step of selecting the accessed patterns that match the query email message *(Kircher, page 2 [0013]).*

As to **Claim 6**, *Rothwell in combination with Kircher teaches* further comprising the step of storing the patterns with with assigned attributes in a database *(Rothwell, column 4, lines 55-56).*

As to **Claims 7, 33, and 50**, *Rothwell in combination with Kircher teaches* wherein the using step further comprises the step of defining an attribute vector from the patterns with assigned attributes, the attribute vector characterizing portions of the query email message *(Kircher, Figure 7, block86l, page 8 [0071]).*

As to **Claim 8**, *Rothwell in combination with Kircher teaches* wherein the using step further comprises the step of defining an attribute vector from the patterns with assigned attributes, the attribute vector characterizing the whole of the query email message *(Kircher, Figure 7, block86l, page 8 [0071]).*

As to **Claims 9, 34, and 51**, *Rothwell in combination with Kircher teaches* wherein one or more of said annotated email messages comprises an unwelcome email message ("SPAM") *(Rothwell, column 4, lines 55-56).*

As to **Claim 10**, *Rothwell in combination with Kircher teaches* further comprising the step of storing the patterns with assigned attributes in a database serving as a "SPAM-dictionary" *(Rothwell, column 4, lines 55-56).*

As to **Claims 11, 35, and 52**, *Rothwell in combination with Kircher teaches* wherein one or more of said annotated email messages comprises a welcome email message ("non-SPAM") *(Rothwell, column 6, line 17).*

As to **Claim 12**, *Rothwell in combination with Kircher teaches* further comprising the step of storing the patterns with assigned attributes in a database serving as a "SPAM-dictionary" *(Rothwell, column 6, line 15).*

As to **Claims 13, 36, and 53**, *Rothwell in combination with Kircher teaches* wherein said database comprises (i) a first subdatabase comprising annotated unwelcome email messages ("SPAM") *(Rothwell, column 6, line 15, wherein the archive is equivalent to a subdatabase)*, and (ii) a second subdatabase comprising annotated welcome email messages ("non-SPAM") *(Rothwell, column 6, line 17, wherein the archive is equivalent to a subdatabase).*

As to **Claims 14, 37, and 54**, *Rothwell in combination with Kircher teaches* wherein the attribute vector comprises a number of counters *(Kircher, Figure 7 wherein block86d-k provide the number of counters).*

As to **Claims 15, 38, and 55**, *Rothwell in combination with Kircher teaches* wherein the query email message comprises characters of a human language and the number of counters is proportional to the number of said characters in the query email message *(Kircher, Figure 7, page 7 [0066]).*

As to **Claims 16, 39, and 56**, *Rothwell in combination with Kircher teaches* wherein the assigned attributes are used to contribute values to counters

of the attribute vector corresponding to portions of the query email message matched by the patterns *(Kircher, page 7 [0064])*.

As to **Claims 17, 40, and 57**, *Rothwell in combination with Kircher teaches* comprising a plurality of attribute vectors *(Kircher, Figure 7 [0066])*.

As to **Claim 18**, *Rothwell in combination with Kircher teaches* wherein the values contributed to the counters of each of the attribute vectors of the plurality of attribute vectors are normalized *(Kircher, Figure 7 [0066], wherein the counter is normalized)*.

As to **Claims 19, 41, and 58**, *Rothwell in combination with Kircher teaches* wherein each attribute vector of the plurality of attribute vectors represents a different attribute *(Kircher, page 2 [0012] wherein different category represents different attribute)*.

As to **Claims 20, 42, and 59**, The method of claim 17, wherein the plurality of attribute vectors are ranked *(Rothwell, Table 4, column 7, lines 40-51)*.

As to **Claim 21**, *Rothwell in combination with Kircher teaches* wherein only highly ranking attribute vectors are kept *(Rothwell, Table 4, column 7, lines 40-51)*.

As to **Claims 27, 47 and 64**, *Rothwell in combination with Kircher teaches* further comprising the step of determining a score for the patterns with assigned attributes used to contribute to the attribute vector, said database comprising (i) a first subdatabase comprising annotated unwelcome email messages ("SPAM")

(Rothwell, column 6, line 15, wherein the archive is equivalent to a database), and (ii) a second subdatabase comprising annotated welcome email messages ("non-SPAM") *(Rothwell, column 6, line 17, wherein the archive is equivalent to a database)*, said score representing a degree of similarity, between the query email message and at least one of said annotated unwelcome email messages ("SPAM") *(Kircher, Figures 7-12, page 9 wherein [0076-84] wherein the score determines similarity degree between email messages)*, and a degree of dissimilarity between the query email message and at least one of said annotated welcome email messages ("non-SPAM") *(Kircher, Figures 7-12, page 9 wherein [0076-84] wherein the score represents dissimilarity degree between email messages)*.

As to **Claim 28**, *Rothwell in combination with Kircher teaches* further comprising the step of defining, for each of said assigned attributes, a value criterion based on the value of the counters of the attribute vector to determine whether the corresponding attribute is present in the query email message *(Rothwell, Figures 3-4, column 4, lines 47-59)*.

As to **Claim 29**, *Rothwell in combination with Kircher teaches* further including the step of defining a SPAM attribute criterion dependent on which of said assigned attributes are present in the query email message, to determine whether the query email message is a SPAM email message *(Rothwell, Example 1, column 5, lines 1-10)*.

As to **Claim 30**, *Rothwell in combination with Kircher teaches* further including the step of defining a non-SPAM attribute criterion dependent on which of said assigned attributes are present in the query email message, to determine whether the query email message is a non-SPAM email message *(Rothwell, Example 1, column 5, lines 1-10).*

Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,769,016 issued to Rothwell et al. ("Rothwell") and further in view of Pub. No. Us2003/0195937 issued to Robert C. Kircher, Jr. ("Kircher") as applied to Claim 1 above, and further in view of U.S. Patent Number 6,446,011 issued to Floratos et al. ("Floratos").

As to **Claims 2 and 3**: *Rothwell in combination with Kircher teaches* all the limitations disclosed in claim 1, except for the pattern discovery algorithm which is Teiresias. However, *Floratos teaches* wherein the pattern discovery algorithm is the Teiresias pattern algorithm *(column 7, lines 1-55).* It would have been obvious to one of the ordinary skill in the art during the time the invention was made to use Teiresias' pattern algorithm teaching of Floratos with intelligent message screening teaching of Kircher and intelligent spam detection system using an updateable neural analysis engine teaching of Rothwell to provide method and system which detect repeating patterns in order to analyze and classify electronic messages.

Claims 22-26, 43-46 and 60-63 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 6,769,016 issued to Rothwell et al. ("Rothwell") and further in view of Pub. No. Us2003/0195937 issued to Robert C. Kircher, Jr. ("Kircher") as applied to Claims 1, 31, and 48 above respectively, and further in view of Pub. No. US2005/0081059 issued to Bandini et al. ("Bandini").

As to **Claims 22, 43, and 60**:

Rothwell in combination with Kircher teaches all the elements of Claims 1, 31 and 48 above respectively.

Rothwell in combination with Kircher does not explicitly teach further comprising the step of determining a score for the patterns with assigned attributes used to contribute to the attribute vector.

Bandini teaches further comprising the step of determining a score for the patterns with assigned attributes used to contribute to the attribute vector *(Figure 3 comprises the step of determining a score for the pattern with assigned attribute, page 5 [0039]).*

It would have been obvious to one of the ordinary skill in the art during the time the invention was made to combine method and system for e-mail filtering teaching of Bandini with intelligent message screening teaching of Kircher and intelligent spam detection system using an updateable neural analysis engine teaching of Rothwell in order to provide an enhancement to the current method and system which determines and scores electronic mail patterns.

As to **Claims 23, 44, and 61**, *Rothwell, Kircher in combination with Bandini teaches* wherein the score represents a degree of similarity between the query email message and at least one annotated email message of the database *(Kircher, Figures 7-12, page 9 wherein [0076-84] wherein the score represents similarity degree between email messages).*

As to **Claim 24**, *Rothwell, Kircher in combination with Bandini teaches* wherein the score is normalized *(Kircher, Figure 12 wherein the score is normalized).*

As to **Claims 25, 45, and 62**, *Rothwell, Kircher in combination with Bandini teaches* wherein the score represents a degree of similarity between the query email message and at least one annotated email message of the database, and wherein said at least one of said annotated email messages comprises an unwelcome email message ("SPAM") *(Bandini, page 5 [0039 and 0041]).*

As to **Claims 26, 46, and 63**, *Rothwell, Kircher in combination with Bandini teaches* wherein the score represents a degree of similarity between the query email message and at least one annotated email message of the database, and wherein said at least one of said annotated email messages comprises a welcome email message ("non-SPAM") *(Figure 3-block78, page 5 [0038] wherein email reporting as clean is equivalent to non-spam).*

Citation of Pertinent PriorArt

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

- Shimizu et al. (Pub. No. US2005/0223315), "Information Sharing Device and Information Sharing Method".
- Zaher et al. (Pub. No. US2005/0091027), "System and Method For Processing Digital Annotations".
- Petry et al. (Pub. No. US2006/0195537), "Systems and Methods for Managing Directory Harvest Attacks via Electronic Messages".
- Brown, Jr. et al. (Pub. No. US2005/0188018), "System for Managing E-mail Traffic".
- Irlam et al. (US Patent No. 6,650,890), "Value-Added Electronic Messaging Services and Transparent Implementation Thereof Using Intermediate Server".
- Gordon et al. (US Patent No. 6,732,157), "Comprehensive Anti-SPAM System, Method, and Computer Program Product for Filtering Unwanted E-Mail Messages".
- Jeffrey Owen Kephart (US Patent No. 6,732,149), "System and Method for Hindering Undesired Transmission or Receipt of Electronic Messages".
- Hoyt a. Fleming, III (US Patent No. 6,249,805), "Method and System for Filtering Unauthorized Electronic Mail Messages".
- Jeffrey Nelson Heiner (US Patent No. 6,112,227), "Filter-In Method for Reducing Junk E-Mail".

- Albert L. Donaldson (US Patent No. 6,321,267), "Method and Apparatus for Filtering Junk Email".
- Greaves et al. (Pub. No. US2005/0111446), "Network Message Filtering Using Hashing and Pattern Matching".

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh-Ha Dang whose telephone number is 571-272-4033. The examiner can normally be reached on Monday-Friday from 9:00 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Thanh-Ha Dang
Examiner
Art Unit 2163

ALFORD KINDRED
PRIMARY EXAMINER